

In The Claims:

1. (currently amended) A method of producing a-biologically active α -2b-interferon recombinant polypeptide in a duckweed plant culture or a duckweed nodule culture, comprising the steps of:

(a) culturing within a duckweed culture medium a duckweed plant culture or a duckweed nodule culture, wherein said duckweed plant culture or said duckweed nodule culture is stably transformed to express said biologically active α -2b-interferon recombinant polypeptide, and wherein said biologically active α -2b-interferon recombinant polypeptide is expressed from a nucleotide sequence comprising a coding sequence for the polypeptide and an operably linked coding sequence for a signal peptide that directs secretion of the α -2b-interferon polypeptide into the culture medium; and

(b) collecting said biologically active polypeptide from the duckweed culture medium.

2. (currently amended) The method of claim 1, wherein said biologically active α -2b-interferon recombinant polypeptide is secreted into the duckweed culture medium.

3. (currently amended) The method of claim 1, wherein said nucleotide sequence has at least one attribute selected from the group consisting of:

(a) duckweed-preferred codons in the coding sequence for said α -2b-interferon polypeptide;

(b) duckweed-preferred codons in the coding sequence for said signal peptide;

(c) a translation initiation codon that is flanked by a plant-preferred translation initiation context nucleotide sequence; and

(d) an operably linked nucleotide sequence comprising a plant intron that is inserted upstream of the coding sequence.

4. (original) The method according to claim 3, wherein said duckweed-preferred codons are *Lemna gibba*-preferred codons or *Lemna minor*-preferred codons..

5. (original) The method according to claim 4, wherein at least one coding sequence selected from the coding sequence for said polypeptide and the coding sequence for said signal peptide comprises between 70-100 % *Lemna gibba*-preferred codons or *Lemna minor*-preferred codons..

6. (original) The method according to claim 3, wherein said plant-preferred translation initiation context nucleotide sequence consists of the nucleotide sequence "ACC" or "ACA", wherein said context is positioned immediately adjacent to of the 5' end of the translation initiation codon.

7. (original) The method according to claim 3, wherein said operably linked nucleotide sequence comprising said plant intron is the sequence set forth in SEQ ID NO:1.

8. (currently amended) A method of producing a biologically active α -2b-interferon recombinant polypeptide, comprising the steps of:

(a) culturing a duckweed plant culture or a duckweed nodule culture, wherein said duckweed plant culture or said duckweed nodule culture is stably transformed to express said biologically active α -2b-interferon recombinant polypeptide, and wherein said biologically active α -interferon recombinant polypeptide is encoded by a nucleotide sequence that has been modified for enhanced expression in duckweed, and

(b) collecting said biologically active α -2b-interferon polypeptide from said duckweed plant culture or said duckweed nodule culture.

9. (currently amended) The method of claim 8, wherein said nucleotide sequence that has been modified for enhanced expression in duckweed has at least one attribute selected from the group consisting of:

- (a) duckweed-preferred codons in the coding sequence for said biologically active α -2b-interferon-recombinant polypeptide;
- (b) a translation initiation codon that is flanked by a plant-preferred translation initiation context nucleotide sequence; and
- (c) an operably linked nucleotide sequence comprising a plant intron that is inserted upstream of the coding sequence.

10. (original) The method according to claim 9, wherein said duckweed-preferred codons are *Lemna gibba*-preferred codons or *Lemna minor*-preferred codons.

11. (original) The method according to claim 10, wherein the coding sequence comprises between 70% and 100% *Lemna gibba*-preferred codons or *Lemna minor*-preferred codons.

12. (original) The method according to claim 9, wherein said plant-preferred translation initiation context nucleotide sequence consists of the nucleotide sequence "ACC" or "ACA", wherein said context is positioned immediately adjacent to the 5' end of the translation initiation codon.

13. (original) The method according to claim 9, wherein said operably linked nucleotide sequence comprising said plant intron is the sequence set forth in SEQ ID NO:1.

14-19 (cancelled)

20. (currently amended) The method according to claim ~~14~~9, wherein said α -2b-interferon is a human α -2b-interferon.

21. (currently amended) The method according to claim 20, wherein said human α -2b-interferon has ~~an~~the amino acid sequence selected from the group consisting of the amino acid sequence set forth in SEQ ID NO:4 and the amino acid sequence set forth in ~~SEQ ID NO:5.~~

22. (currently amended) The method according to claim 1, wherein the ~~biologically active recombinant polypeptide is a biologically active variant of α -2b-interferon~~ variant having; ~~wherein said biologically active variant has at least 80% sequence identity with an amino acid sequence selected from the group consisting of the amino acid sequence set forth in SEQ ID NO:4 and the amino acid sequence set forth in~~ SEQ ID NO:5.

23. (cancelled)

24. (currently amended) The method according to claim 1, wherein said signal peptide ~~sequence~~ is selected from the group consisting of:

- (a) the human α -2b-interferon signal peptide;
- (b) the *Arabidopsis thaliana* chitinase signal peptide;
- (c) the rice α -amylase signal peptide;
- (d) the modified rice α -amylase peptide;
- (e) a duckweed signal peptide; and
- (f) a signal peptide native to the biologically active recombinant polypeptide.

25. (original) The method according to claim 24, wherein the signal peptide is the rice α -amylase signal peptide having the sequence set forth in SEQ ID NO:3.

26. (original) The stably transformed duckweed plant culture or duckweed nodule culture according to claim 1.

27-34. withdrawn